

ON THE RESECTION OF THE APPENDIX
VERMIFORMIS DURING THE QUIESCENT
STAGE OF CHRONIC RELAPSING
APPENDICITIS¹

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IN THE early part of last year I took occasion to remark, in speaking of intermediate laparotomy for appendicitis in its quiescent stage,² that it might be questioned whether sufficient data existed to warrant the use of so severe a recourse as this in these cases; or, in other words, that it should not then be considered as settled that surgery is justified in its interference by the removal of appendices when the symptoms of surgery are not present. This opinion was based upon the consideration of some six cases that had been brought to my notice, which not only had a mortality of one case, but in four of which there were such slight changes in the appendix as to give rise to the idea that we were dealing with a lesion different from what was found in the acute processes and that in the example then under my consideration no serious trouble would probably have arisen in the future, even though an operation had not been performed; and in the remaining two of which the adhesions surrounding the appendix were of such an extensive character that the removal of the affected organ was practically impossible. It was then admitted, however, that

¹Read at the meeting of the Medical Society of the State of New York, Albany, February, 1889.

²Remarks on Intermediate Laparotomy for Recurring Appendicitis in its Quiescent Stage.—*Med. News*, March 1, 1890.

when recurrent attacks of appendical inflammation were so frequent as to impair the patient's usefulness in life, it was proper to run the risk of a laparotomy for their relief. Though my feeling then and also until recently was, that even in these cases, it was wiser to delay operation until an acute attack was in progress.

Since that time experience has grown with great rapidity in this department of surgery. I have been able to collect some 26 cases; probably, not all that have been published, but they attain a sufficiently large number to enable me to draw deductions somewhat different from those that came into my mind a year ago.

Considering now in detail the 26 collected cases,³ I have found there was but one death. The mortality of the operation, therefore, must be considered to be a slight one; and in all the cases that have recovered, the recovery has been a satisfactory one. That is to say, the patients have been relieved from their recurrent pains and have enjoyed thereafter a decidedly improved condition of health.

A second point of considerable importance is that two conditions of the appendix have been found in these operations, viz., the perforative form, or the ulcerative form about to perforate from the distension from retained fluids; this, however, is only reported in 2 instances out of the table of 26.

In no instance has there been present any concretion, or foreign body, such as is generally encountered in the acute perforative appendicitis.

In addition to this, there has been made known to us sundry conditions which are grouped under the head of chronic catarrhal appendicitis, meaning by this, in its simple form, that the walls of the appendix were thickened, with its mucous mem-

³Performed by Treves, Senn, Hoegh, Hadra, Greig Smith, Porter, Monks, Stimson, Murray, Lange, Bull, McBurney, Baldy, Teale, Wyeth, Holmes and Abbe. The operations of Tait, Kümmel, Bernardy, Baldy and two of my own, are omitted from the consideration of the question as they were resorted to too close to an acute attack to be properly included, or the appendix was removed in connection with another disabling lesion, as in two of Baldy's cases. One of Bull's also is not included for similar reasons. In this the adhesions were great, and the appendix was not found. In all the excluded cases recovery took place, thus confirming the safety of the operation—i.e., 35 cases in all with 1 death.

brane more or less changed, and its lumen either entirely obliterated or diminished in size to that of a small cord. It will be remembered that similar pathological conditions are met with in autopsies on about every third person dying from other causes. This condition of simple catarrhal appendicitis was encountered in 10 instances in the 26 extirpations of the appendix. In other instances, the appendix besides presenting the above named conditions contained a small amount of mucous, or muco-pus, or grumous, brown fluid. This general catarrhal condition was associated in four other cases with either a kinking or bending on itself of the appendix, or with a stenosis of the appendix in its upper portion conjoined with accumulations of the contents, pus or muco-pus, beyond the portion narrowed by either of these just named causes. In the 26 operations made for recurring appendicitis there were 4 cases where the removal of the appendix could not be accomplished and of the 22 removals it was found that in 6 cases the appendix was free from any adhesions whatever; in 6 other cases only very slight adhesions were found, and in 6 further cases the adhesions were very marked and extensive, making the operation tedious and more dangerous (Greig Smith). In 3 of these latter cases the appendix could not be found. In the 4 remaining cases no report of the condition of the appendix is given.

It would seem at the first view of these facts that the interior conditions of the appendix which gave rise to the recurrent pains and prevented the individual from carrying on his usual vocations, and also demanded the operation, were such as would not have imperilled his life in the future, or that if any abscess occurred it would be a limited one by reason of the previous adhesions (?), and that, therefore, the risk of the operation was really greater than the risk of the disease. And this brings up the question as to what is the *status quoad* life of the chronic catarrhal forms of appendical inflammation.

The prophecy made in the *Lancet* in 1889, that the appendix cæci would prove the battle ground of the struggle between the advocates of the medical and surgical line of treatment in typhilitis is being fully carried out, and particularly in this special connection. The surgical treatment advocated for

several years past in the treatment of acute appendicitis has been unanimous in this one point, that it should be applied as early as possible in the disease. This dictum on the part of surgeons has been met by the opposing experience of physicians, that in the observation of the latter many cases get well by purely medical treatment alone. It has been difficult to reconcile these two views. It is true that by a surgical operation in the vast majority of the acute cases, a gangrenous or perforated appendix has been found as the cause of the abscess or of the general suppurative peritonitis encountered. Only rarely has a condition of an inflamed appendix, or an appendix that is distended, or that has been perforated by a collection of fluid, from within its walls, been met with. Individually, I have encountered out of eighteen removals of the appendix, but one instance of circumscribed abscess due to distensive perforation of the appendix, and in this the perforation is a minute one. Stimson has, however, recently presented at one of the sessions of the New York Surgical Society, two appendices from acute cases, wherein one, a catarrhal appendicitis existed, with a collection of fluid within it threatening rupture of its wall, and in the other, a general peritonitis ensued, without perforation of the inflamed appendix. These cases, though apparently rare, show that the catarrhal forms of appendicitis can bring about a severe peritonitis. Unfortunately, up to the present time there is no correct or reliable appreciation of the mortality of these catarrhal, or the so-called medical cases of appendicitis. Nor any method during life of positively differentially diagnosing the same from the perforative lesions. The nearest approach to the solution of the former of these difficulties that one can obtain is that furnished recently by Fitz, who stated that he had seen in consultation during the past four years 72 cases of perityphlitis, of which 74% recovered, and 26% died. About half of these cases were treated surgically, and the other half medically. Of the surgically treated cases, 40% died, and of the medically treated cases 11% died. Of these medical cases, 14% subsequently resulted in spontaneous evacuation of the pus. He draws, as a result of this experience, a deduction, probably as nearly correct as one can now come to, although

it necessarily excludes those cases which demand in the present cases the most searching inquiry, to-wit: the mild cases of recurrence seen by the general practitioner, so mild, indeed, as not to require a professional consultation. It is this, that the recurrences, instead of, as given by him in previous statistics, being as low as 11 %, have risen as high as 44 %. His judgment, based as it has been upon large experience and careful study of this subject, is, therefore, that intermediate laparotomy should be performed when the patient is debarred, from this cause, from the enjoyment of life, or the ability to earn a living.

From the uncertainty of attaining a proper discrimination in diagnosis, and from the slight mortality in the quiescent stage of the disease, together with the uniform excellence of the results, I feel I must now fully concur in this judgment. The objection of the possibly resulting ventral hernia can best be obviated by special care in suturing the layers of the abdominal parietes, and by prolonged recumbency.

In only one case of the twenty four⁴ was there an imperfect restoration of health. It can also be added that beside the three cases in which it was found impossible by reason of the extensive adhesions to remove the diseased organ, there is another (Treves) case where the freeing of the adherent appendix was alone resorted to, as this was seen to be sufficient to allow its contents to be discharged into the cæcum. In this and in one of the unremoved appendices a subsequent complete restoration to health was obtained.

The limited time allowed to the reading of these remarks will not permit any elaboration of certain important points connected with the subject of the natural history, so to speak, of the catarrhal form of appendicitis, as contrasted with the perforative or gangrenous form, but I venture to sum up my ideas, yet vague in part, in a few statements which are here briefly submitted:

1. That the final outcome of the review of these cases has been that the large majority of recurrent attacks are due to catarrhal appendicitis, which, though to an unknown degree capable of producing explosive and serious peritoneal

⁴The two recent operations of Drs. Bull and Abbe must here be withdrawn.

inflammation, yet, generally, from the lumen of the tube being previously shut off from the cæcum, limit correspondingly the chances of fæcal or severe infection of the peritoneum.

2. That the simple catarrhal appendicitis can be suspected when the recurrences are frequent, that is to say, more than four or five times, as in the acute processes⁵ this is seldom exceeded, and when such attacks are not of a severe type, nor of greater duration than a week, and particularly so if there be no appearance of a distinct tumor.⁶

3. In such cases delay in operating may be encouraged to a reasonable extent, at least until it is indubitably proven that the invalidism is a confirmed one. Out of five cases seen by me in the last year for recurrent attacks of appendicitis, in three of the above-described simple form, it was advised to wait till the next acute attack presented itself as a further justification of surgical interference, but this did not occur in any of these. In the two others, from the persistent invalidism, or the severity of some of the attacks, an operation was advised.

4. Where a tumor is present in the quiescent stage, or has been decidedly felt after the acuteness of the attack has passed off, more urgency is present, as it indicates, it is believed, either an accumulation of noxious contents, or of ulceration within the appendix, or an already present small perforation. It is in such cases that Mackenzie says that we can expect, if an acute process is subsequently set up, that it will be of the circumscribed rather than a general suppurative peritonitis. The frequent conjunction, in the collected cases, of adhesions with the severer forms of the catarrhal appendicitis, with retained secretions, or with minute perforations, seem to corroborate this view.

5. That as the diagnosis of the separate condition of sim-

⁵In the examination of 30 cases of acute perforative appendicitis where recurrence was noticed, I found that the explosion into abscess, or general peritonitis, in 22 instances occurred before the third attack, and only once did it occur after fifth attack.

⁶The detection of a tumor in an acute attack is often very difficult; mere dulness on percussion is not always reliable.

ple catarrhal appendicitis and its complications of distension from retained fluids, and of ulceration, are not to be at present differentially diagnosticated, and as it has been shown that each can give rise to dangerous conditions, recurrences of severity and frequency should hereafter mean that an exploratory laparotomy should be resorted to, on the general principle of this being of less risk than the disease itself.